Samantha K. Hewamanage, PhD

Resume

I am looking for a challenging career that uses my computer abilities together with analytical skills to tackle interdisciplinary problems in areas such as business and marketing. I am especially attracted to problems involving large datasets and distributed computing.

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http://goo.gl/2ngGze
https://github.com/hkaushalya

Data Analysis Skills

- Analyzed 30 PB and 10 PB of CMS data and 9 PB of CDF data in search for rare physics processes.
- Extensive knowledge of ROOT (C++ for physics analyses)
- Understand and interpret data using statistics and mathematical modeling .
- Developed test methods and cross checks for physics measurements using Monte Carlo techniques.
- Applied minimization methods to fit data.
- Performed detailed systematic uncertainty calculations to produce most stringent limits on hypothesized particle masses.
- Provided comprehensive documentation of methods and techniques used in the analysis to the collaboration.

Research Skills

Analyzing CMS and CDF data requires collaboration with fellow physicists and significant amount of self motivation, discipline, and commitment.

- Perform independently.
- Work closely with international collaborators.
- Communicate and share knowledge.
- Work management and meeting deadlines.
- Ability to quickly learn and adapt.
- Publish in renowned journals like PRL, IEEE, and JHEP.
- Present results at international conferences.
- Source code management using Git and CVS
- Use large scale computing resources to process data (HTcondor, Open Science Grid with WLCG)
- Define and use new data formats and data structures to sped up data analysis.
- Assist with grant proposals.
- Mentor graduate students.

Computer Skills

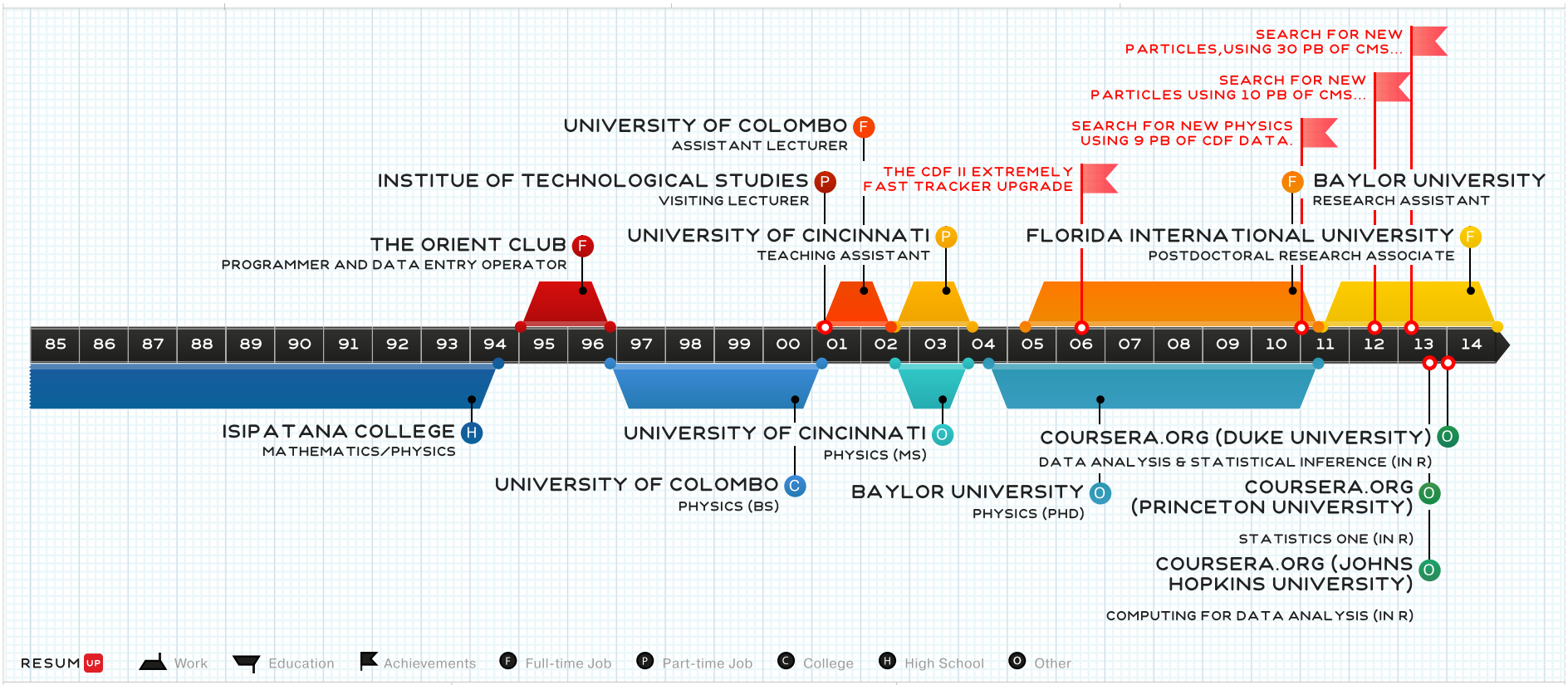
Advanced	C++, Python, R, HTML, LaTeX, Linux, OS X, MS Windows, Computer hardware assembly
Intermediate	SciPy, NumPy, pandas, SQL, Google Refine, QGIS, Bash, Csh, Computer networking
Basic	Java, JavaScript, PHP, Drupal

Communication Skills

Conferences	• Oral presentation of CMS results at the Phenomenology Symposium – 2013 • Oral presentation of CDF results at the American Physical Society – 2008
Colloquiums	• Florida International University – 2011 • Texas Tech University – 2010 • Louisiana State University – 2010 • National University of Taiwan – 2009
Posters	• International Conference on High Energy Physics – 2008

Selected Publications (coauthor)

- "Search for new physics in the multijet and missing transverse momentum final state in proton-proton collisions at $\sqrt{s}$ = 8 TeV", JHEP (2014)
- "Search for new physics in the multi-jet and missing transverse momentum final state in proton-proton collisions at $\sqrt{s}$ = 7 TeV using LHC data", Phys. Rev. Lett. 109 (2012)
- Thesis: "Search for Anomalous Production of Photon + Jets + Missing Transverse Energy in proton-antiproton Collisions at $\sqrt{s}$ = 1.96 TeV Using the CDF II Detector", inSPIRE HEP database (2011)
- "The CDF II eXtremely Fast Tracker upgrade", Nucl. Instrum. Meth. A 572, 358-360 (2007)



HOBBIES

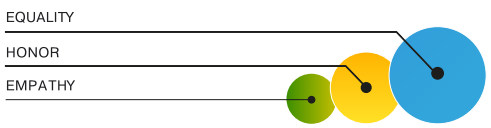
SCIENCE

READING

OUTDOOR RECREATION

TEAM SPORTS

KEY VALUES



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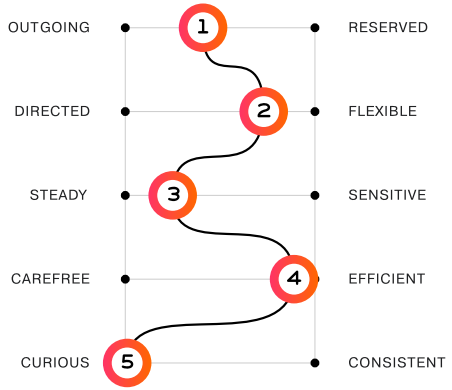

SKILLS